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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Andrew L. Bliss

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EXAMINER

MCCARTHY, CHRISTOPHER S

ART UNIT

PAPER NUMBER

2113

DATE MAILED: 07/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/712,619	BLISS ET AL.	
	Examiner	Art Unit	
	Christopher S. McCarthy	2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,8-15,17-19 and 21-32 is/are rejected.
- 7) ☒ Claim(s) 3,7,16,20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to because of the following informalities: The claim reads “a an”.
Appropriate correction is required.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 25 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claim cites “a software architecture” comprising components and API's, no hardware structure is present on which to store the software or execute the software.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 31 recites the limitation "all pending I/O request packet information" in the preamble. There is insufficient antecedent basis for this limitation in the claim. No I/O request language is present in the parent claim of 25.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-2, 4-6, 8-15, 17-19, 21-30, 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Hendel et al. U.S. Patent 7,028,056.

As per claim 1, Hendel teaches in a computer system having an operating environment including user mode modules having a first level of protection and kernel mode modules having a second level of protection (column 2, lines 32-35; column 5, lines 5, lines 29-33, wherein Hendel teaches that user-mode portion processes have higher accessibility/lower protection than kernel mode (kernel mode not available to the user)), a method for consistently collecting information associated with the execution of a user mode module (column 1, lines 6-10), the method comprising: transmitting, by a requester application, a request to collect kernel mode module information (column 3, lines 27-49, wherein Hendel teaches that method includes a client process/application that issues/requests a write and read dump), wherein the request to collect kernel mode module information includes an identification of one or more process threads from which kernel mode information will be collected (column 3, lines 27-49; column 2, lines 41-53, wherein Hendel teaches a dump to include parameters and teaches the parameters/information to include thread context information); obtaining, by a kernel mode module, the request to collect kernel mode module information (column 2, lines 41-53; column

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6, lines 20-29); capturing, by the kernel mode module, information corresponding to each thread identified in the request to collect kernel mode module information (column 2, lines 41-53, 58-61; column 6, lines 20-28); transmitting, by the kernel mode module, a result of the capturing of the information corresponding to each thread identified in the request to collect kernel mode module information (column 7, lines 9-21; column 3, lines 21-26); and receiving, by the requestor application, the result of the capturing of the information corresponding to each thread identified in the request to collect kernel mode module information (column 3, lines 37-48; column 7, lines 15-21).

As per claim 2, Hendel teaches the method as recited in claim 1, wherein the request to capture kernel mode module information includes an identification of a pre-allocated memory in which to store captured kernel mode information (column 3, lines 46-48; column 6, lines 42-49; column 7, lines 15-21).

As per claim 4, Hendel teaches the method as recited in claim 1, wherein the kernel mode module is an operating system resident application (figure 6; column 5, lines 22-43).

As per claim 5, Hendel teaches the method as recited in claim 1 further comprising capturing, by the kernel mode module, a list of all loaded drivers (column 6, lines 23-26).

As per claim 6, Hendel teaches the method as recited in claim 1, wherein capturing information corresponding to each thread identified in the request to collect kernel mode module information includes: (a) capturing a thread kernel stack (column 6, line 16); and (b) capturing all pending I/O request packet information (column 6, lines 33-37, 15; column 5, lines 24-25, wherein, combining these citations, the dump contains information about the crashing process that was running on the crashing driver at the time of failure; therefore, since the kernel is

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running a device driver, that inherently is used to process data from one device to another, and that driver crashes, then the information about the process that was running on the driver, that is, the I/O request, is saved in the dump as part of the information of the crashing process on the crashing driver); and (c) repeating (a)-(b) for each identified thread in the request to capture kernel mode module information (column 2, lines 49-52, wherein, multiple threads/process information is saved; therefore, the taught thread information taught as saved for each thread, by Hendel, is saved the same for multiple threads).

As per claim 8, Hendel teaches the method as recited in claim 6, wherein capturing information corresponding to each thread identified in the request to collect kernel mode module information is asynchronous (column 8, lines 65-67, wherein a request could happen at anytime; there is no teaching of being dependent upon time).

As per claim 9, Hendel teaches the method as recited in claim 1, wherein transmitting a result includes transmitting a status code corresponding to the success or failure of the information capture (column 3, lines 43-44, 35-36).

As per claim 10, Hendel teaches the method as recited in claim 1, wherein transmitting a result includes storing the captured kernel mode module information in an allocated memory (column 7, lines 9-21).

As per claim 11, Hendel teaches the method as recited in claim 1, wherein transmitting a request to collect kernel mode module information occurs in response to a user mode module error (column 7, lines 37-40).

As per claim 12, Hendel teaches a computer-readable medium having computer-executable instructions for performing the method recited in claim 1 (column 4, lines 28-48; see rejection of claim 1).

As per claim 13, Hendel teaches a computer system having a processor, a memory and an operating environment, the computer system for performing the method recited in claim 1 (column 4, lines 15-48; see rejection of claim 1).

As per claim 14, Hendel teaches in a computer system having an operating environment including user mode modules having a first level of protection and kernel mode modules having a second level of protection (column 2, lines 32-35; column 5, lines 5, lines 29-33, wherein Hendel teaches that user-mode portion processes have higher accessibility/lower protection than kernel mode (kernel mode not available to the user)), a method for consistently collecting information associated with the execution of a user mode module, the method comprising: obtaining a user mode module request to collect kernel mode module information including an identification of one or more process threads from which kernel mode information will be collected (column 2, lines 41-53; column 6, lines 20-29; column 3, lines 27-49; column 2, lines 41-53, wherein Hendel teaches a dump to include parameters and teaches the parameters/information to include thread context information); capturing information corresponding to each thread identified in the request to collect kernel mode module information ; and transmitting the captured kernel mode module information (column 2, lines 41-53, 58-61; column 6, lines 20-28; column 7, lines 9-21; column 3, lines 21-26).

As per claim 15, Hendel teaches the method as recited in claim 14, wherein the request to capture kernel mode module information includes an identification of a pre-allocated memory in

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which to store captured kernel mode information (column 3, lines 46-48; column 6, lines 42-49; column 7, lines 15-21).

As per claim 17, Hendel teaches the method as recited in claim 14, wherein obtaining a user mode module request includes obtaining, by an operating system resident application, the user mode module request (column 5, lines 22-43; figure 6).

As per claim 18, Hendel teaches the method as recited in claim 14 further comprising capturing a list of all loaded drivers (column 6, lines 23-26).

As per claim 19, Hendel teaches the method as recited in claim 14, wherein capturing information corresponding to each thread identified in the request to collect kernel mode module information includes: (a) capturing a thread kernel stack (column 6, line 16); and (b) capturing all pending I/O request packet information (column 6, lines 33-37, 15; column 5, lines 24-25, wherein, combining these citations, the dump contains information about the crashing process that was running on the crashing driver at the time of failure; therefore, since the kernel is running a device driver, that inherently is used to process data from one device to another, and that driver crashes, then the information about the process that was running on the driver, that is, the I/O request, is saved in the dump as part of the information of the crashing process on the crashing driver); and (c) repeating (a)-(b) for each identified thread in the request to capture kernel mode module information (column 2, lines 49-52, wherein, multiple threads/process information is saved; therefore, the taught thread information taught as saved for each thread, by Hendel, is saved the same for multiple threads).

As per claim 21, Hendel teaches the method as recited in claim 19, wherein capturing information corresponding to each thread identified in the request to collect kernel mode module

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information is asynchronous (column 8, lines 65-67, wherein a request could happen at anytime; there is no teaching of being dependent upon time).

As per claim 22, Hendel teaches the method as recited in claim 1, wherein transmitting the captured kernel mode module information includes transmitting a status code corresponding to the success or failure of the information capture (column 3, lines 43-44, 35-36).

As per claim 23, Hendel teaches a computer-readable medium having computer-executable instructions for performing the method recited in claim 14 (column 4, lines 15-45; see rejection of claim 14).

As per claim 24, Hendel teaches a computer system having a processor, a memory and an operating environment, the computer system for performing the method recited in claim 14 (column 4, lines 15-45; see rejection of claim 14).

As per claim 25, Hendel teaches in a computer system having an operating environment including user mode modules having a first level of protection and kernel mode applications having a second level of protection (column 2, lines 32-35; column 5, lines 5, lines 29-33, wherein Hendel teaches that user-mode portion processes have higher accessibility/lower protection than kernel mode (kernel mode not available to the user)), a software architecture for consistently collecting information associated with the execution of a user mode module, the architecture comprising: a processing component for capturing kernel mode module information corresponding to one or more processing threads identified in a request to collect kernel mode module information (column 2, lines 41-53, 58-61; column 6, lines 20-28; ; and at least one application program interface for accessing the processing component and identifying the one or

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more processing threads from which to collect kernel mode module information (column 3, lines 21-26).

As per claim 26, Hendel teaches the architecture as recited in claim 25, wherein the at least one application program interface is further operable to identify a pre-allocated memory to received captured kernel mode module information (column 3, lines 46-48; column 6, lines 42-49; column 7, lines 15-21).

As per claim 27, Hendel teaches the architecture as recited in claim 25, wherein the processing component is embodied as a driver application (column 6, lines 64-67).

As per claim 28, Hendel teaches the architecture as recited in claim 25, wherein the processing component is embodied as an operating system resident application (column 5, lines 22-43; figure 6).

As per claim 29, Hendel teaches the architecture as recited in claim 25, wherein the kernel mode module information includes a list of all loaded drivers (column 6, lines 23-26).

As per claim 30, Hendel teaches the architecture as recited in claim 25, wherein the kernel mode module information includes a thread kernel stack (column 6, line 16) and all pending I/O request packet information for each identified process thread (column 6, lines 33-37, 15; column 5, lines 24-25, wherein, combining these citations, the dump contains information about the crashing process that was running on the crashing driver at the time of failure; therefore, since the kernel is running a device driver, that inherently is used to process data from one device to another, and that driver crashes, then the information about the process that was running on the driver, that is, the I/O request, is saved in the dump as part of the information of the crashing process on the crashing driver).

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As per claim 32, Hendel teaches the architecture as recited in claim 25, wherein the process component captures the kernel mode module information asynchronously (column 8, lines 65-67, wherein a request could happen at anytime; there is no teaching of being dependent upon time).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Allowable Subject Matter

7. Claims 3, 7, 16, 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: See attached PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. McCarthy whose telephone number is (571)272-3651. The examiner can normally be reached on M-F, 9 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571)272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Christopher S. McCarthy
Examiner
Art Unit 2113